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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,156

04/14/2004

David G. Land

04E007

6382

7590

06/05/2007

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EXAMINER

CHAMBERS, TROY

ART UNIT

PAPER NUMBER

3641

MAIL DATE

DELIVERY MODE

06/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/824,156		LAND, DAVID G.	
	Examiner		Art Unit	
	Troy Chambers		3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 11 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

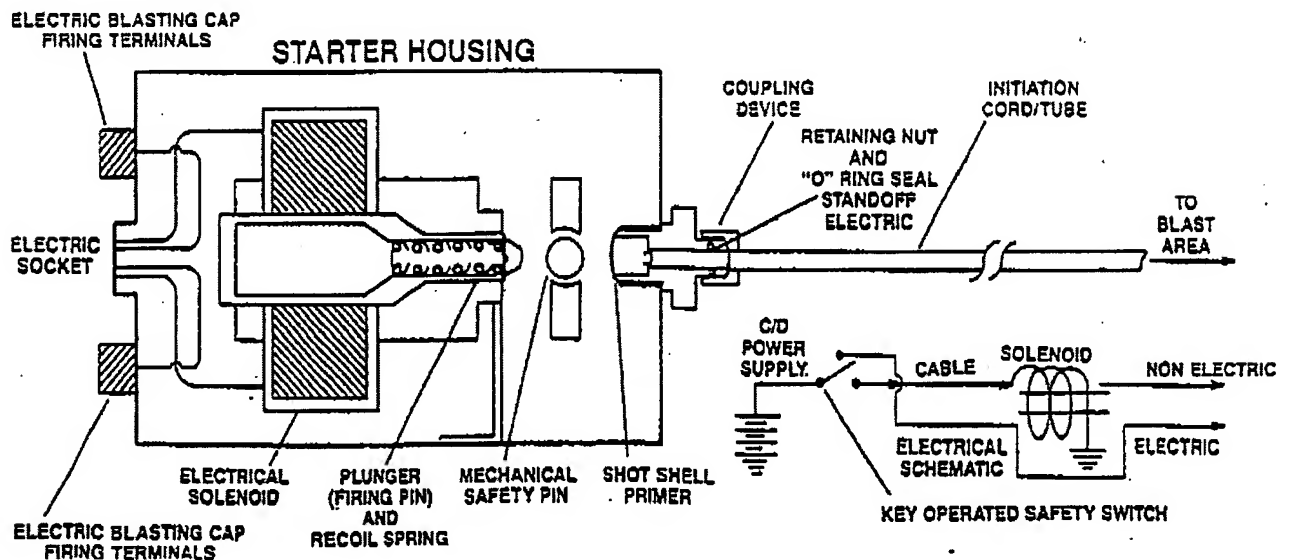
DETAILED ACTION***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 10, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4962708 issued to Snyder et al. (hereinafter "Snyder") in view of US 6867512 issued to Delaire et al. (hereinafter "Delaire") and in further view of US 6546873 issued to Andrejkovics et al. (hereinafter "Andrejkovics") and in further view of H1068 issued to Huhmann and in further view of US 4577561 issued to Perry.

3. Snyder discloses a detonator initiator comprising:



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- a. a linear actuator assembly having
 - i. a core
 - ii. a coil (solenoid)
- b. a capacitor

Snyder does not disclose a core with a permanent magnet or an electrical circuit for monitoring the charge on the capacitor.

4. Delaire discloses a valve actuator comprising:

- c. a linear actuator assembly having
 - iii. a solenoid
 - iv. permanent magnet

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5. Andrejkovics discloses an apparatus for activating a remote device comprising:

- d. a receiver
- e. a capacitor
- f. a controller and microprocessor

to monitor capacitor charge col. 7, ll. 45-62.

- v. support logic
- vi. timer

Fig. 5

6. Huhmann discloses a CMOS capacitive charging circuit comprising:

- g. a CMOS switching transistor^{8, 10}
- h. CMOS logic

7. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the detonator initiator of Snyder with the permanent magnet of

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Delair. The suggestion/motivation for doing so would have been to provide increased armature force and increased travel so as to improve controllability and increase flow.

8. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the linear actuator assembly of Snyder with the capacitor charge monitoring circuit of Andrejkovics. The suggestion/motivation for doing so would have been to provide a means for delaying firing of the device until the capacitor has reached the required charge.

9. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device of Snyder, Delair and Andrejkovics with the teachings of Huhmann. The suggestion/motivation for doing so would have been to provide the combined device with a capacitor-charging network having high speed and low power drain.

10. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device of Snyder, Delair and Andrejkovics and Huhmann with the teachings of Perry. The suggestion/motivation for doing so would have been to provide a lower cost system by removing the need for a battery. (Perry, col. 2, ll. 47-49)

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snyder, Delaire, Andrejkovics and Huhmann as applied to claim 1 above, and further in view of US 3792663 issued to Schneider. The combined device to Snyder, Delaire, Huhmann and Andrejkovics is as described above. However, neither reference appear to disclose a component to adjust the charge threshold based on ambient temperature.

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Schneider discloses an electrochemical timing apparatus including a thermistor 52 for automatically controlling the rate of a wire in response to ambient temperature variations.

12. At the time of the invention, one having ordinary skill in the art would have found it obvious to provide the combined device of Snyder, Delaire and Andrejkovics with the electrochemical timing apparatus of Schneider. The suggestion/motivation for doing so would have been to provide for a self-destruct option for ordinance devices to avoid undesired ignitions.

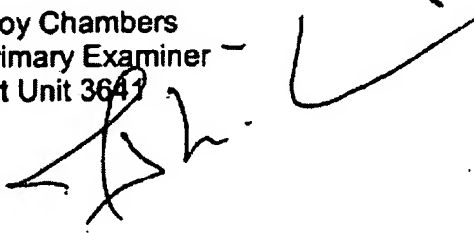
Response to Arguments

13. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (571) 272-6874 between the hours of 7:00 a.m. to 3:30 p.m., M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (571) 272-6873.

Troy Chambers
Primary Examiner
Art Unit 3641



Troy Chambers
Primary Examiner
Art Unit 3641

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TC

05/29/2007